

Claims

1. A laser machining method, comprising the steps of:
making an ultra-short pulse laser beam irradiate a work piece that is transparent to said ultra-short pulse laser beam from one side of the work piece;
focusing said ultra-short pulse laser beam passing through the one side of the work piece on the other side of the work piece, and
machining the work piece by said ultra-short laser beam from or near a surface face at the other side of the work piece.
2. The laser machining method of claim 1, wherein said ultra-short pulse laser beam is moved relatively from the work piece in such a manner that a focal point of the ultra-short pulse laser beam moves in a direction from the other side of the work piece to the one side of the work piece, whereby a hole can be formed in the work piece.
3. The laser machining method of claim 1 or 2, wherein a primary constituent of the work piece, which is transparent to the ultra-short pulse laser beam, is a material of aluminum oxide (Al_2O_3), silicon dioxide (SiO_2), diamond, silicon carbide (SiC), silicon (Si), or titanium oxide (TiO_2).